

**Notice of Allowability**

Application No.

10/056,265

Examiner

Juan D Valentin II

Applicant(s)

VAGANOV, VLADIMIR

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 09/22/2003.
2. ☒ The allowed claim(s) is/are 1, 3-8, 12, 13, 16-20, 24, 42, 45-51 and 53-60.
3. ☒ The drawings filed on 22 September 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received. \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
(a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.  
(b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner  
(c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- 1 ☐ Notice of References Cited (PTO-892)
- 2 ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3 ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/03), Paper No. \_\_\_\_\_
- 4 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 5 ☐ Notice of Informal Patent Application (PTO-152)
- 6 ☒ Interview Summary (PTO-413), Paper No. 11/19/2003
- 7 ☒ Examiner's Amendment/Comment
- 8 ☒ Examiner's Statement of Reasons for Allowance
- 9 ☐ Other

## **DETAILED ACTION**

### **EXAMINER'S AMENDMENT**

I. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Dr. Vladimir Vaganov on November 19, 2003.

**The application has been amended as follows:**

- Please cancel claim 2.
- Replace claim 1 with the following:

A photonic component package, the package such that:  
the package couples at least two photonic elements;  
the package is mounted onto a module; and  
the package comprises:  
a package body with a through hole;  
an interior;  
at least two pins, the at least two pins for insertion into the module, wherein  
the at least two pins each comprise a substantially straight section, and the at least  
two pins extend from the package body without increasing the footprint  
requirements of the package for mounting the package on the module;

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a photonic inlet on one side of the through hole, the photonic inlet oriented parallel to a mounting surface of the module and aligned with the through hole, the photonic inlet oriented parallel to a mounting surface of the module and aligned with the through hole, and the photonic inlet for attaching to at least one photonic element; and

a lid, the lid attached to the package body on the side of the through hole opposite to that having the photonic inlet; and

the interior for housing a semiconductor die, the semiconductor such that:

the semiconductor die has two sides:

a planar side with at least two electrical pads for electrical connection to the at least two pins; and

a die photonic element side having a die photonic element, the die photonic element side opposite to the planar side; and

the semiconductor die is attached to the package in such a way that:

the photonic element side of the die is positioned approximately orthogonal to the photonic inlet, on the opposite side of the through hole from the photonic inlet, and facing the through hole;

the die photonic element is optically coupled with the at least one photonic element attached to the photonic inlet on the side of the through hole opposite to that to which the semiconductor die attached; and

electrical connection to the electrical contact pads in on the planar side of the die, this planar side of the die facing away from the from the through hole and the photonic inlet.

- Please replace claim 42 with the following:

A VOA package, the VOA package for attachment to a mounting surface of a module, and the VOA package for enclosing a semiconductor die, the semiconductor die comprising or coupled with a movable mirror, and the semiconductor die having two planar sides, at least two electrical contact pads on the side of the die opposite to that having the movable mirror, and the semiconductor die further comprises or is coupled with the movable mirror, and the VOA package coupled with a collimator, the collimator for positioning at least two optical fibers, the VOA package comprising:

a package body, a through hole, a lid, a photonic inlet, and at least two pins;  
the package body having a pinout side, a photonic inlet side and a cavity;  
the photonic inlet attached to the photonic inlet side of the package, and the photonic inlet for attaching the collimator and positioning the optical fibers to be parallel to the mounting surface of the module;  
the through hole extending through the VOA package and to the cavity, and the through hole for enabling light to pass between the movable mirror and the at least two optical fibers;  
each of the at least two pins coupled with the pinout side and electrically coupled with the semiconductor die on the side of the die opposite to that having the movable mirror, and the at least two pins extending from the pinout side;

the lid coupled with the body and enclosing the cavity; and  
whereby the semiconductor die is attached to the body and within the cavity, and the mirror of the semiconductor die is positioned to variably optically attenuate an optical signal emitted from at least one of the at least two optical fibers through a collimator lens by controllably redirecting the optical signal reflected from the mirror back through the through hole and going back through the collimator lens to the other optical fiber.

- Please replace “2” in line 1 of claim 3 with --1--.
- Please replace “2” in line 1 of claim 4 with --1--.
- Please replace “2” in line 1 of claim 5 with --1--.
- Please replace “2” in line 1 of claim 6 with --1--.
- Please replace “2” in line 1 of claim 7 with --1--.
- Please replace “2” in line 1 of claim 8 with --1--.
- Please replace “2” in line 1 of claim 10 with --1--.
- Please replace “2” in line 1 of claim 12 with --1--.
- Please replace “2” in line 1 of claim 13 with --1--.
- Please replace “2” in line 1 of claim 18 with --1--.
- Please replace “2” in line 1 of claim 19 with --1--.
- Please replace “2” in line 1 of claim 24 with --1--.

*Allowable Subject Matter*

2. Claims 1, 3-8, 12, 13, 16-20, 24, 42, 45-51, & 53-60 are allowed over prior art of record.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, the prior art fails to disclose or make obvious “the die photonic element is optically coupled with the at least one photonic element attached to the photonic inlet on the side of the through hole opposite to that to which the semiconductor die attached” and in combination with the other recited limitations of claim 1. Claims 3-8, 12, 13, 16-20, 24, 49, & 50 are allowed by virtue of dependency on the allowed claim 1.

Regarding claim 42, the prior art fails to disclose or make obvious “whereby the semiconductor die is attached to the body and within the cavity, and the mirror of the semiconductor die is positioned to variably optically attenuate an optical signal emitted from at least one of the at least two optical fibers through a collimator lens by controllably redirecting the optical signal reflected from the mirror back through the through hole and going back through the collimator lens to the other optical fiber” and in combination with the other recited limitations of claim 42. Claims 45-48 are allowed by virtue of dependency on the allowed claim 42.

Regarding claim 51, the prior art fails to disclose or make obvious “attaching the external photonic element to the photonic inlet in a optically coupled alignment, whereby the semiconductor die is positioned approximately orthogonal to the external photonic element, and the die photonic element and the external photonic element are optically coupled via the through hole” and in combination with the other recited limitations of claim 51. Claims 53-60 are allowed by virtue of dependency on the allowed claim 51.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan D Valentin II whose telephone number is (703) 605-4226. The examiner can normally be reached on M-Th., Every other Fr..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (703) 308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308- 0955.



Juan D Valentin II  
Examiner 2877  
JDV



Michael P. Stalira  
Primary Patent Examiner  
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